

THE FEEDING OF *PODABRUS PRUINOSUS* LECONTE

(*Cantharidae*)

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The feeding of this species on aphids was observed under a binocular microscope. The aphid is seized directly in the mandibles, without previous palpation, and it would appear that the prey is located by sight. Mastication is for the most part extra-oral, and only the juices are ingested. From time to time the beetle exudes drops of fluid which envelop the prey and are then withdrawn, and the fluid can be seen to pass down the esophagus, by observing the dorsum of the beetle's head which is sufficiently transparent to allow observation. This process suggests extra-oral digestion.

The aphid is revolved in the median longitudinal plane by use of the labrum, which is extended and withdrawn, pushing the aphid forward. The mandibles are eased as the prey is pushed forward, and then re-grasp the prey as the labrum is withdrawn. This process is repeated many times. The aphid is thus revolved away from the labrum, in a direction that appears clockwise if viewed from the right side of the beetle. The aphid is revolved from 60 to 79 times at a rate of about twice per second before being discarded.

At the end of this process, the remaining fluids are extracted by crushing the prey between the mandibles. The aphid is reduced to a small ball-shaped mass of exoskeleton, which is then dropped. If it should cling to the beetle's mouthparts, the fore-legs are raised and used to push the mass away.

Neither pair of palpi is used in the feeding process, although both pairs are continually vibrated rapidly. The entire time required to eat one aphid is from one and one-half to two minutes. After each feeding, the cantharid cleans the mouthparts and the antennae by means of the tarsi of the front legs. A short period of resting occurs between each feeding, even when aphids are abundant in the vicinity.